

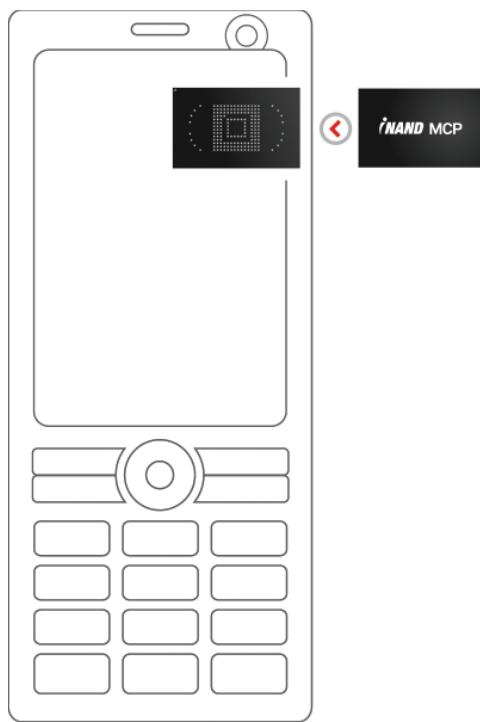
iNAND™ -Based MCP

Design in More

High-Capacity iNAND eSD/MMC

Low-Power DRAM (DDR)

Data and Code Storage



With every new generation of mobile multimedia handsets, more applications are converging into a single device. Feature-rich handsets offer music playback, high-quality video and TV applications, navigation services and gaming. More embedded storage lets users enrich their multimedia lifestyle.

The SanDisk® iNAND™-based multichip package (MCP) offers a range of high-capacity storage and low power DRAM combinations. They all share the same standard architecture, footprint and package. A single device enables tailored storage, code execution and boot requirements to free up precious real estate, reduce design complexity and give designers the flexibility and scalability to support multiple handset designs.

Main Features and Benefits

Catering to Diverse Memory Needs

The SanDisk iNAND-based MCP offers iNAND eSD/eMMC high-capacity storage of up to 8GB with a high-performance, low-power DRAM up to 2Gb (256MB), packaged in a small, standard form factor.



-  MLC NAND flash controller
-  Low Power DRAM
-  MLC NAND Flash

High-Capacity Data Storage

iNAND eSD/eMMC device uses SanDisk advanced, cost-effective multi-level cell (MLC) NAND flash technology, a flash controller and embedded flash management firmware. Handset designers enjoy ease of integration, reliability and high-performance perfectly suited for mobile multimedia applications.

Code Storage and System Boot

iNAND eSD/eMMC, based on SanDisk MLC NAND flash technology, is a reliable code storage and boot device. It eliminates the need for an additional boot code storage device and a NAND interface, substantially reducing system design complexity and cost.

iNAND eSD – The Perfect System Solution

Dedicated physical partitions - managed by customizable levels of protection and with a power failure immunity mechanism - now allow boot code to be safely stored on the iNAND device and accessed via the eSD interface.

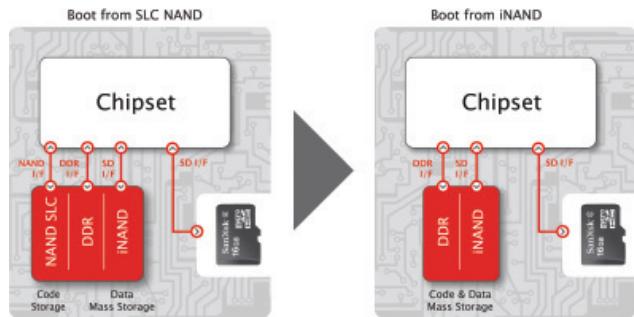
SanDisk®

Low-Power System DRAM

SanDisk iNAND-based MCPs incorporate industry standard, high-performance, low-power DRAM, designed especially for mobile devices. SanDisk technology ensures MCP design is optimized to meet the strict signal integrity and power routing requirements of high-speed LP-DRAM (DDR), without compromising package height and cost constraints.

Optimized for Smooth Migration

SanDisk iNAND-based MCP provides a flexible and scalable solution for various memory configuration requirements. It supports seamless migration to future designs, including boot from iNAND eSD/eMMC via a standard interface.



Because iNAND-based MCP devices of various configurations, capacities and package sizes share the same architecture and ballout, one platform design can be used for various handset models.

More Reliable

SanDisk brings a wealth of experience and cutting edge technology to MCP design. SanDisk employs advanced packaging, stacking, assembly and testing technologies to provide highly reliable and efficient packaging.

Why iNAND-Based MCP?

- **Advanced flash technology** – Access the latest generation of SanDisk advanced MLC NAND flash technology.
- **Standard interface and form factor** – Make integration a breeze with the eSD and eMMC standard interfaces.
- **High performance** – Provide 15MB/s sustained read and 9MB/s sustained write.

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SanDisk iNAND-Based MCP Family of Products

	iNAND	LP DRAM
Capacity**	4Gb-64Gb (512MB-8GB)	1-2Gb
Interface	eSD/eMMC	DDR 32bit I/F
NAND flash technology	SanDisk MLC	N/A
Flash management	Embedded firmware	N/A
Performance	Sustained read: 15MB/sec Sustained write: 9MB/sec	166MHz
Operating voltage	Core: 1.8V/3.3V I/O: 1.8V/3.3V	1.8V/1.8V
Package (mm)		12x16
Power-save mode		350µA
Active current	Default: 100mA High speed: 200mA	Active current: max 75mA

* 1 gigabyte (GB) = 1 billion bytes; 1 megabyte (MB) = 1 million bytes; speed based on internal testing; performance may be lower depending on host device. Some capacity not available for data storage.

** Note these are capacity ranges for reference only. Not all iNAND and DRAM capacities are available.